

THE INTERNATIONAL INFLUENCE PROCESS: HOW RELEVANT IS THE CONTRIBUTION OF PSYCHOLOGISTS? ¹

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BEFORE the advent of nuclear weapons, it was possible to base national strategy on the defensive steps that might be taken *after* a war broke out. Today, the emphasis has shifted from defense, which is now technically infeasible in the case of strategic nuclear weapons, to deterrence, i.e., efforts to influence the decision to attack. This shift in emphasis has created an apparent opportunity for the psychologist to bring to bear on questions of national strategy the data and insights gleaned from literally thousands of studies. For, if the deterrence process is a matter of influencing the decision-making behavior of other human beings, surely the psychologist should have relevant and important observations to make on this process. Apparently many psychologists agree with this assumption, and some have devoted considerable effort to the problem.

Despite the psychological implications implicit in the concept of deterrence, it is not universally agreed that psychologists, as scientists, have an important contribution to make to this area. Probably the most vocal spokesman for those who feel psychologists do not have a useful role to play as scientists is N. Jordan (1963), who apparently believes that much of our professional effort has been, if not downright misguided and dangerous, then, at least, misspent. My purpose here is to take a look at the ways in which social scientists, in general, and psychologists, in particular, have tried to apply their skills and knowledge to the problem of influencing the behavior of other nations, and to try to assess the usefulness and validity of their efforts.

Although the deterrence problem is heavily

weighted with psychological components, deterrence is not the only aspect of the international influence process toward which psychologists have directed or should direct their energies. Deterrence is essentially a negative concept; it is a strategy which threatens punishment in an effort to discourage certain forms of behavior. Because deterrence is based on threats, it seems reasonable to assume that it leads to increased tension. Clearly, there are other alternatives. Many believe that traditional diplomacy has emphasized discouragement through threat rather than encouragement through reinforcement. Charles Osgood (1962) has repeatedly stressed the more positive approach to influencing the behavior of other nations by advocating steps which would reinforce desired behavior and reduce international tension. Thus it is possible to distinguish two broad forms of international influence: deterrence, and what I shall call, for want of a better word, encouragement.

One way to assess the appropriateness of applying the science of psychology to this area would be to attempt to evaluate the contributions of individual psychologists. But psychologists have written and said so much about these problems in the past decade that an exhaustive review would be beyond the scope of this paper. Furthermore, when the contributions of individuals are evaluated, there is always the danger of lapsing into ad hominem arguments. A second approach is to ask: How have psychologists attacked this problem? What methods of analysis or research have they employed? To what extent have these provided useful and valid insights about the international influence process? And finally, what dangers characterize particular techniques?

At least four approaches can be identified: (a) Psychologists have devised models of the international influence process; (b) they have designed simulations or games and conducted research using these simulations; (c) they have drawn on the vast body of research which has been conducted on

¹ Paper (slightly modified) read as Division 19 special invited presentation at American Psychological Association, Los Angeles, September 1964, and written while the author was on the staff of the System Development Corporation, Falls Church, Virginia. The author wishes to express his appreciation to Launor F. Carter of System Development Corporation and Robert Boguslaw of American University for their comments.

humans and lower animals to support arguments, models, and suppositions about national and international decision makers; and finally, (d) in the interest of completeness, there is a fourth approach, widely used today, which has not been the special forte of psychologists but which still deserves discussion, namely the game theoretic approach.

MODELS

It is a commonplace observation that the world we live in is extremely complex. We seek to unravel the simplest thread only to find that it binds together an enormously complex array of interdependent events. One of the ways commonly used to deal with this problem of complexity is through the construction of models. Models are simplified representations of some subject of inquiry. They help scientists and philosophers alike to visualize and determine how changes in one aspect of the model would influence other aspects or how such changes would influence the whole. All models presume some relationship to the more complex reality they are created to represent, and since they are less complex and are directly accessible to us, they can be manipulated more easily than the real world.

Men have been using models to organize and assist them in their understanding of the world for many centuries. Many of the models, used by social scientists to help organize and stimulate thought, have been derived from physical and mechanical systems. Descartes, for example, is identified with the rise of the mechanistic view of man—a view of man which, incidentally, he developed using as a model primitive automatons. Clark Hull's (1943) assumption that the brain acts as an automatic switchboard falls in the same mechanistic tradition.

Living organisms provide the basic analogue for a second class of models, organismic models. The organismic models stress the interrelatedness and integrity of a system as well as notions of growth and evolution, a point of view which has been developed in a very sophisticated form by the philosopher A. N. Whitehead (1950), but one which is also familiar to psychologists for its relevance to Gestalt theory.

One of the notions implied by the classic organismic model is purpose, which many social scientists still reject as unscientific. The modern disci-

pline of cybernetics (Wiener, 1954) has done much to define purpose in essentially mechanistic terms and it is now used quite widely as a model to explain individual, social, and political behavior (Deutsch, 1963). The computer, of course, has also stimulated new ideas regarding purposive behavior, particularly the development of computer programs (Miller, Galanter, & Pribram, 1960).

There are other kinds of models of interest to social scientists, including, of course, mathematical models; but if, for the moment, we ignore models inspired by game theory, which will be discussed under a separate heading, most of the models developed for studying the international influence process have been verbal. The complexity of the international influence process requires the use of multiple models as well as verbal material for their elaboration. It would be possible to represent, for example, some of the features of Osgood's model of the international influence process by a flow diagram (see Figure 1). Such a diagram is called an analogue model (Churchman, Ackoff, & Arnoff, 1957). But, this flow diagram does not begin to represent the features of the process which Osgood presumably believes are crucial to an adequate description of the situation. Osgood has drawn extensively on experimental research in the area of perception to illustrate phenomena which are assumed to influence decision makers, and one might expand on the model shown in Figure 1 by constructing additional models to represent human psychological considerations.

David Singer (1962), a political scientist, has chosen a probability-utility model to illustrate some of the perceptual problems of deterrence. This model has two axes: a utility-disutility dimension which has to do with a decision maker's assessment of the positive or negative value of any given course of action, and a subjective probability dimension representing the decision maker's estimate of the odds. Values attached to the dimensions of his model vary, of course, with the particular situation in which the decision maker finds himself. Although Singer provides no concrete guides for assigning values to these dimensions, he assumes that choice is a function of probability multiplied by success or failure (pp. 25-26).

To illustrate, the model shown in Figure 2 is the deterrer's estimated outcome and represents the ideal case from the point of view of the deterrer. Probability of success is low and the gain slight;

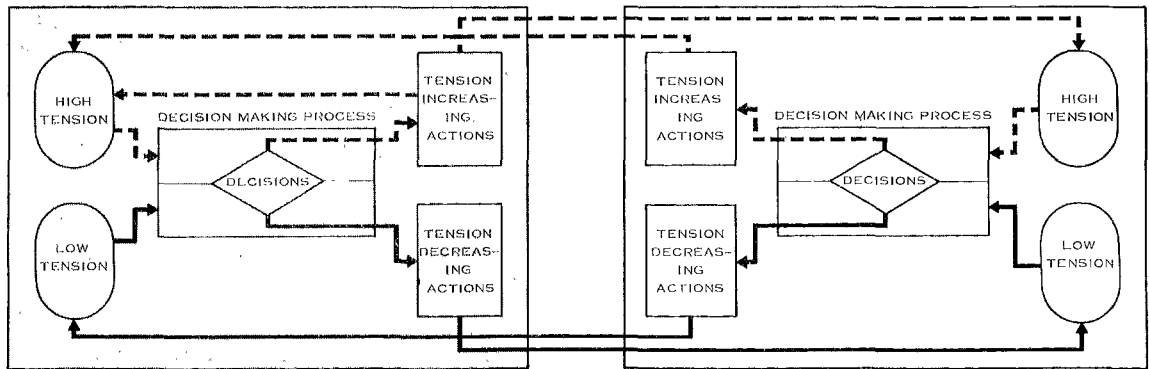


FIG. 1. Model of a model. (Schematic illustration of some of the features of Osgood's GRIT.)

probability of failure is high and the consequences relatively great.

Just as the model which was used to illustrate Osgood's approach was completely inadequate to encompass the complexity of the problem, the same may be said of Singer's model. Singer relies primarily on verbal material rather than the analogue model of Figure 2, and Osgood has not, to my knowledge, ever attempted to create an analogue model of the strategy he has proposed.

There are dimensions of the problem which neither Singer nor Osgood analyzes in detail, and the requirement for multiple models is nicely illustrated by citing a third model, proposed by Karl W. Deutsch, to illustrate the flow of foreign policy information within a single government (see Figure 3).

Now it is clear that there is no end to the models which might be constructed by a shrewd observer of a process as complex as this. On the surface this may seem inconsequential, but the fact of the matter is, it is quite serious. In the absence of an

agreement about models, all of the facts which might be relevant to the process seem equally important because there is no guiding paradigm. Data collection and even experimentation are consequently far more random than they would otherwise be. Thomas Kuhn (1962) has recently argued most effectively that the near universal acceptance of a paradigm, providing research consensus, is an essential step on the route to normal science. Social science, in general, has been plagued by lack of consensus regarding fundamental paradigms—certainly no such consensus exists in the present case. Yet, the construction of paradigms and agreement regarding them is essential if we are to convert our philosophy into science. Thus, the enterprise itself is to be commended. The danger lies in premature assumptions about the validity of our models and the courses of action we recommend on the basis of them. Let me illustrate these points by a contrast and example with the physical sciences. Newton's *Opticks* provided the basic paradigm for research in optics in the eighteenth century; Newton assumed that light was material corpuscles. The fact that most scientists accepted the paradigm had a profound influence on their research strategies. Unlike early wave theorists, they began to search for evidence that light particles exerted a pressure by impinging on solid bodies. Their assumptions had little if any direct effect on humanity as a whole. If, on the other hand, social scientists were to accept and actively propose Osgood's model of the international influence process, the consequences would extend far beyond the bounds of our laboratories. When and if psychologists agree to do this, they must bear in mind that the name of the game is no longer psychology, or even science, but international diplo-

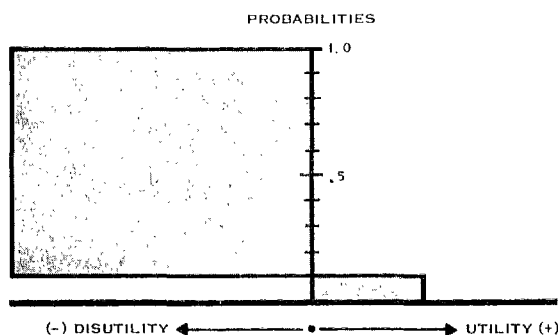


FIG. 2. Deterree's estimated outcomes. (Utility and probability of success are both low; disutility and probability of failure are both high. Rational deterree does not attack (from Singer, 1962).)

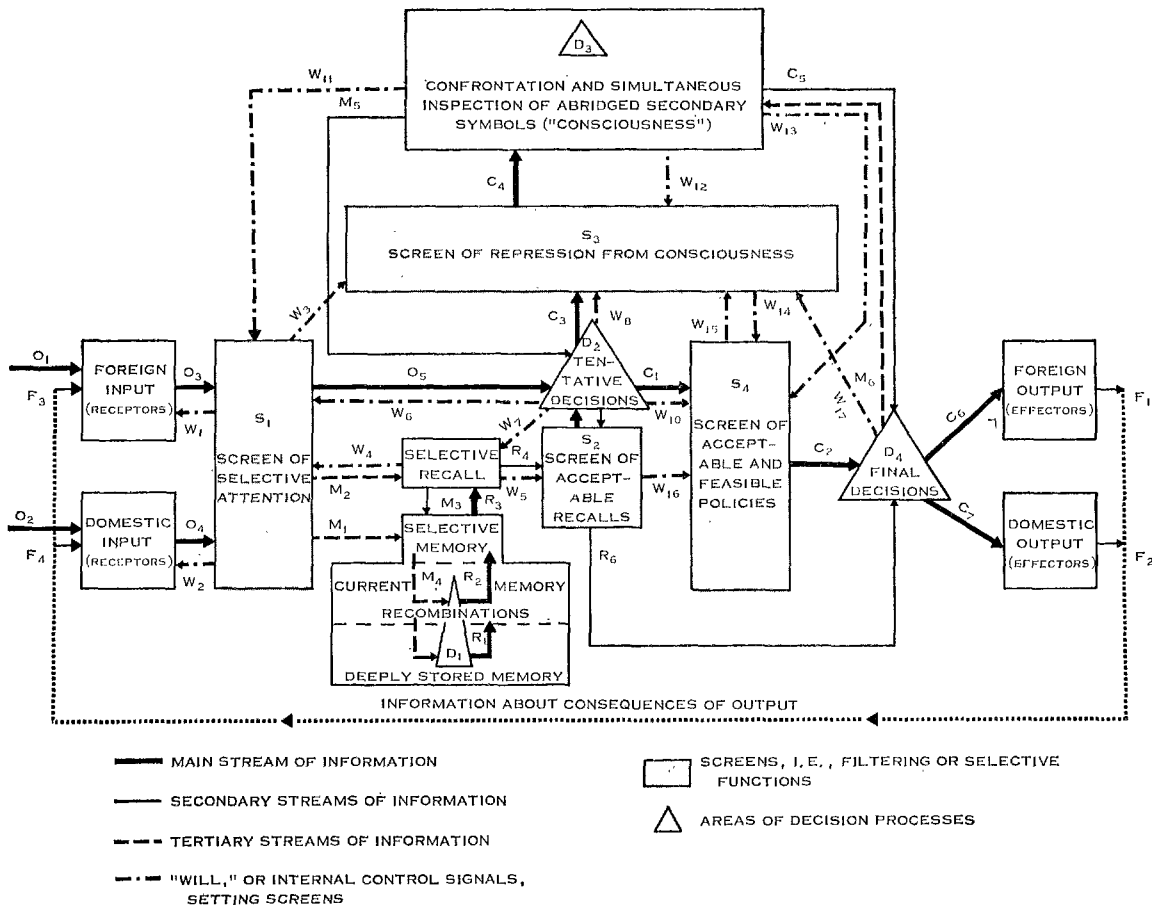


FIG. 3. A model of information flow in foreign policy decisions (from Deutsch, 1963).

macy—an exceedingly complex and specialized game in which the stakes are unbelievably high.

In defense of the promotion of models developed by psychologists, it is only fair to point out that we are, unfortunately, living in a world in which many men will admit no bounds to their spheres of competence. All around us there are those willing to make the most blatant and unjustifiable generalizations about human behavior in support of their prejudices or preferred strategies of action. The conflict for the social scientist is clear. If he adheres to the rigorous canons of science, his voice may never be heard in the land. If he speaks out, as a social scientist, he will be criticized (generally by his own colleagues) for his lack of rigor. At the heart of the matter there is the question of purpose. A large part of our research has been directed at isolating fundamental laws of animal behavior; it may well be that our horizon has been too narrow. If we are to speak with authority on

the larger issues which mankind faces, and be taken at our word, it may be necessary for us to define our objectives more broadly and utilize techniques which have greater face validity.

ENVIRONMENTAL OR OPERATIONAL SIMULATION

There is a class of research now being conducted which achieves a greater degree of face validity by stressing the simulation of content. Any international political situation may be characterized in terms of formal structure, content, or psychological essentials. Game theory stresses formal structure. Empirical research in the area of bargaining and negotiation has emphasized psychological essentials. Environmental or operational simulation stresses content.

There is apt to be some confusion over the terms "model" and "simulation." Both are extremely broad and inclusive terms, and it is possible to distinguish various categories of each. The two terms

have in common the notion of an abstract representation of some subject of interest. They appear to differ primarily in terms of their static or dynamic connotation. Models are static, whether they be iconic, symbolic, or analogical. On the other hand, they need not be static; they can be "put into motion" and the effects of changes on them can be observed. When this happens, I prefer to use the term simulation. Thus, for example, there are *stochastic models*, which are essentially a set of assumptions about how probabilities are effected by some clearly recognizable time-ordered sequence of events. But there are also *stochastic simulations* which "set the model in motion" and enable the experimenter to compare theoretically predicted outcomes with observed outcomes. Such simulations may use digital computers or they may be done manually, but they amount to test runs of models under conditions which are determined by the play of emergent events.

The particular kind of simulation which bears most directly on the international influence process is environmental simulation, or operational simulation as it is sometimes called. Environmental simulation seeks to preserve the complexity of the environment rather than abstract it away. When using environmental simulation, the experimenter tries to maintain the richness and variety of the environment and allows human participants to respond to a situation which resembles as nearly as possible "real life." Both the more traditional social-psychological experiment and environmental simulation involve measuring human actions—one in an abstract environment which bears little resemblance to the real-life situation, the other in a more complete replica of its real-life counterpart.

There are a number of examples of this kind of simulation. Although modern day environmental simulations frequently make use of digital computers, their origins can, nevertheless, be traced back to at least the seventeenth century and the development of early war games. Even today, some of the most critical political-military simulations, the so-called JCS Politico Military Desk Games, do not require computers. These "games" are actually role-playing situations in which individual players represent the United States and foreign governments or factions within governments (McDonald, 1964). The environmental simulation probably best known in academic circles is Inter-Nation Simulation, identified primarily with

Harold Guetzkow (1959) and his students. It has been used to study such problems as Osgood's Graduated and Reciprocated Initiative in Tension-Reduction Strategy (GRIT—Crow, 1963) and some effects of the spread of nuclear weapons technology (Brody, 1963). A description of one of the most complex and interesting simulations of this type has only recently become available in unclassified literature (Abt, 1964). It is a man-machine game, called TEMPER, which is global in scope and permits up to 39 players.

Several characteristics of these simulations are worth noting. First, they are generally expensive to design and develop. Second, individual runs of the game often require large numbers of subjects—frequently subjects who have had prior specialized training. Consequently, the replications necessary to obtain the customary estimates of error variance are difficult and costly to obtain. Third, and perhaps more germane to the present discussion, is the fact that experiments using environmental simulation are, as a rule, not conducted to derive basic laws of international behavior or to test formal theory; instead, they are conducted for the purpose of producing certain specific phenomena under relatively controlled conditions and intervening in the process to observe effects. Whether the results can be extrapolated to the real world remains arguable. Generally, it is assumed that, as a minimum, simulations sufficiently representative of the real world will produce useful insights and add support to (or refute) arguments of an informal, less structured nature.

The emotional overtones which always characterize international crises can seldom—if ever—be simulated in the laboratory. A significant aspect of reality is thus virtually always missing from the environment of the simulated decision maker. Consider, for example, the startling results of a study reported by Shure, Rogers, and Meeker (1963). In their study, the operating environment of a SAGE battle staff, responsible for the air defense of a sector of the United States, was simulated in the laboratory. Four three-man teams of Air Force ROTC students (or specialists in air defense) faced various decision situations. One of these situations involved the choice of surrendering or continuing to fight after apparent defeat. That is, with their sector in ruins and information from the simulated Office of Civilian Defense indicating that Washington, D. C., SAC and ADC headquar-

ters, many of the larger metropolitan areas, and military targets have been destroyed, *all* four crews decided to continue fighting. When one crew was advised that if they reevaluated the situation other cities might be spared, they still elected to go on resisting. Now it is perfectly clear that many factors may account for this dedication on the part of these experimental subjects, and the authors of this report discuss several possible explanations, including discipline, a lack of humanitarian values, and cognitive dissonance. A more compelling explanation may lie in a defect which characterizes all simulations of this kind, i.e., inability to capture the emotional overtones of the situation simulated.

GENERALIZING FROM TRADITIONAL RESEARCH

Presumably the vast body of literature and data collected by social scientists over the past several decades also provides valuable insights regarding the international influence process. Use of such data for this purpose requires a number of assumptions. First, one must assume that it is possible to generalize from the data of individual behavior to the behavior of nations. Decisions in international relations are, after all, made by individuals who are presumed to be subject to common psychological laws or principles. On the other hand, national decisions are made in the context of complex organizational structures which are characterized by internal conflict, inertia, and countless constraints on individual decision makers. Behind the formal organizational structure, available for convenient reference in the government manuals, lurks an informal structure with none of the tidy levels of responsibility or clear-cut lines of communication. Decisions affecting a nation's destiny are made daily by numberless individuals acting, reacting, or failing to act. Second, one must recognize that a very large part of the data of psychology comes from two highly select populations, the college sophomore and the albino rat. As a minimum, generalizing from animal studies to international relations presents formidable problems. With respect to the use of sophomores, Boguslaw, Glick, and I (Boguslaw, Davis, & Glick, 1964) have recently collected evidence which tends to indicate that for certain complex socioeconomic decisions, college students may behave very differently from mature, experienced scientists and administrators. Third, one of the characteristics of a controlled psy-

chological experiment is the abstracting away of complexity. Special, highly artificial environments are required to elicit some of the perceptual and other psychological phenomena which have provided the basis for generalizations about the international influence process. Unfortunately, the frequency of interaction between political, social, and psychological variables is so great as to open to question the usefulness of this approach for extrapolating to real life.

Nevertheless, psychologists have generalized from such abstract situations to complex political problems. One need not look far for examples of such extrapolations of individual psychology from the laboratory to the world of international politics. Charles Osgood resorts repeatedly to this device in his many articles, making extensive use of perceptual studies. Ross Stagner (1961), Urie Bronfenbrenner (1961), and T. W. Milburn (1961) have found it useful to extrapolate from the data of individual psychology to the behavior of larger social systems. And I have done it (Davis, 1963). Indeed, one suspects that a truly exhaustive list would include a very large number of psychologists.

A special case of generalizing from traditional research is the rapidly expanding use of mixed-motive games for the collection of empirical data about how humans behave in negotiating and bargaining situations (Meeker, Shure, & Moore, 1964). The prisoner's dilemma is particularly useful for such studies and a number of variants of this game have been described by Pilisuk and Rapoport (1964).

GAME THEORETIC

For the purposes of this paper, it will be useful to distinguish two broad categories of games: the so-called zero-sum game and the non-zero-sum game. Zero-sum games are competitive and one player's gain is another's loss. Indeed, in such a game cooperation will always result in one player having a smaller payoff than he could have had without cooperation. Although this penalty for cooperation may appear to some to be so unrealistic a restriction as to completely eliminate it as a rational tool for the analysis of real life diplomatic situations, there are those who apparently believe that contemporary military and diplomatic policy is, in fact, one vast zero-sum game in which gains and losses do sum to zero. Mutual accommodation and the possibility of unilateral gain through co-

operation are frequently deplored by those who see the world in these terms; total victory is extolled. In the zero-sum game, many of the most obvious features of international political bargaining and problem solving, such as bluffs, threats, promises, and similar psychological factors, are completely irrelevant. Indeed, the zero-sum game is in the domain of the strategy of pure conflict; there is no need for psychology in this domain, for its players are assumed to be perfectly rational and motivated by greed.

Clearly there are many situations in international negotiation in which one player's gain is not another's loss. Furthermore, both parties to a negotiation may, under some circumstances, gain by cooperation. Games which introduce these possibilities are called non-zero-sum. A class of non-zero-sum games called the mixed-motive game permits both competition and cooperation to occur. Unlike the zero-sum game, the mixed-motive game involves at least tacit communication between players, and the outcome depends upon the social interactions of the participants. Game theory, as it relates to the zero-sum game, treats the players as rational automatons, and since the criteria for their behavior are explicitly specified, their decisions can be deduced within the framework of the theory. The mixed-motive game, on the other hand, introduces great uncertainty about the player, his value system and his strategy. The mixed-motive game, in short, reintroduces psychology—but with it, as one might suspect, destroys the possibility of deriving a normative theory by analytic means. The study of mixed-motive games is therefore largely an empirical matter (Schelling, 1960).

SOME CONCLUDING REMARKS

Decisions affecting the international influence process are commonly made in the context of a dynamic and complex environment. Frequently, the most critical situation, involving the effort to influence one's opponent or even one's allies, is one of a kind and requires a unique solution; action-relevant states of the system of international relations during an emergency such as the Cuban crisis cannot be specified or predicted in advance. Instead, the situation is emergent (Boguslaw, 1961). In this sense, the real world frequently takes on the character of a problem-solving situation rather than a highly structured bargaining and negotiation situ-

ation.² In addition, foreign policy does not reflect a single will, intent, or purpose. Instead, it is the melding together of the hopes and aspirations, the motives and objectives of uncounted individuals, converging by processes only half understood on a few men who act or react or fail to act and thereby hurtle us to the brink of war or jerk us back to the sanctuary of an uneasy peace. To the extent that our destiny is determined by individuals, as Simon (1957) has observed, these individuals construct their own simplified models of reality and behave rationally with respect to that model, even though their "behavior is not even approximately optimal with respect to the real world [p. 199]."

Game theory, which is designed to deal with highly structured rather than emergent situations certainly is not directly applicable to the kind of world I have just described. Nor can we hope to substitute our models of reality for the decision maker's personal model, and it is not obvious that we should try since our models, too, are incomplete.

The problem is not to provide an invariant prescription for the ills of the world, but to enrich the decision maker's understanding of its complexity. We ought not to insist that decision makers adopt our model of reality, but that they expand their models by taking account of factors which we believe to be relevant. In this sense, the task is not to tell the decision maker what he ought to do, i.e., to formulate policy, but to help him understand an aspect of reality of which he may be unaware. The data from individual and social psychology are surely applicable in some way, but the transform equations are unknown, and we should not presume

² One aspect of the international influence process which appears to have been neglected by those who have emphasized the game theoretic approach, including those who have stressed the mixed-motive game, is problem solving. Because economists have done a great deal of original work in this area, *Homo economicus*, rather than man as a problem solver, has been emphasized. To psychologists who followed the Cuban crisis closely, for example, the problem-solving aspects stood out in bold relief. The effort to discover a satisfactory solution to the inspection problem, which included a number of interesting suggestions, such as the proposed use of the United Nations and the Red Cross, for this purpose, nicely illustrates its problem-solving dimensions. Almost daily exploratory suggestions by the United States, the Union of Soviet Socialist Republics, the United Nations, and other nations (and their rejection) created a dynamic and emergent environment. The formally structured aspects of classical bargaining were all but absent.

to know them. What we should aim to do with the tools, techniques, and data at hand is to help the decision maker formulate more complete models of reality.

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